



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,186	07/10/2003	Shlomo Rakib	034704-000006	4298

7590

09/01/2006

Robert E. Krebs
Thelen Reid & Priest, LLP
P.O. Box 640640
San Jose, CA 95164-0640

EXAMINER

LU, JIA

ART UNIT	PAPER NUMBER
----------	--------------

2611

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,186

Applicant(s)

RAKIB ET AL.

Examiner

Jia W. Lu

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Arguments

Applicant's arguments filed on 6/16/06 have been fully considered.

Arguments with respect to claims 1-8, 12 and 13 are not persuasive. Applicant states "a plurality of modulator circuits producing a digital upconverted signal of each of the channel streams". Here, a "modulator circuit" can be interpreted as a circuit that digitally modulates and upconverts, which Eriksson discloses.

Arguments with respect to claims 9-11 are persuasive and the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of US patent 5,825,829. For details see below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Patrik Eriksson in US Patent 6,570,929.
 - a. Regarding claims 1 and 2, Eriksson shows a system outputting a signal from a first plurality of channel streams at digital format (figure 1), the system comprising a plurality of modulators ("mod" and "multi") each

producing a digital upconverted signal, a summer circuit (element 120), a DAC (element 120), and upconverter (column 1, lines 60-65) .

- b. Regarding claims 3 and 7, Eriksson describes a first up-conversion to a first frequency (column 1, line 56) before a second upconverter converts it to transmission frequency (line 63), and hence it is inherent that this second upconverter is an IF modulator.
 - c. Regarding claims 4 and 8, Eriksson describes the use of filters in its transmitting chain (column 1, lines 60-65), and it is inherent that filters in transmission chains are used to perform band-limiting functions.
 - d. Claims 5 and 6 reads on the limitations of claims 1 and 2 above, respectively, further, Eriksson describes a transmitter for outputting the summed signals to a receiver (column 1, lines 60-65).
5. Claims 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Ramin Borazjani in US patent 5,825,829. Borazjani shows a plurality of modulators producing a digital upconverted signal of each of the channel streams (figure 8, elements 122n), first and second summer circuits (elements 124, 126), first and second DACs (elements 130 and 132), a quadrature modulator upconverter (element 133), and filter (element 144)
6. Claims 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Gene L. Cangiani et al in US Patent 6,335,951. Cangiani teaches a plurality of modulator circuits (figure 8, element 84), a first number of summer circuits (element 96), a second number of DACs (Figure 2, element 14), and a second

(or third) number of up-converters (element 16), where the second number is less than the first number ($1 < 2$).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jia W. Lu whose telephone number is 571-272-6042. The examiner can normally be reached on Mon- Fri, 10:30AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571)272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jia Lu
Examiner


CHIEH M. FAN
SUPERVISORY PATENT EXAMINER